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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

in re application of:

Rong-Chang LIANG, et al.

Appl. No. 10/771,848

Filed: February 4, 2004

For: COMPOSITIONS AND ASSEMBLY PROCESS FOR LIQUID CRYSTAL

DISPLAY

Art Unit: 1772

Examiner: Not Yet Assigned

Attorney Docket:

07783.0084.NPUS00

Confirmation No.: 9747

Information Disclosure Statement

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith. It is



further understood that the Examiner will consider information that had been cited by or submitted to the U.S. Patent and Trademark Office in a prior application relied on under 35 U.S.C. § 120. 1138 OG 37, 38 (May 19, 1992).

Applicants have checked the appropriate boxes below.

■ 1.	This Information Disclosure Statement is being filed;	
- 1.	This midifficult Disclosure Statement is being med,	

- □ a. Within three months of the U.S. filing date of a national application other than a continued prosecution application under §1.53(d);
- □ b. Within three months of the date of entry of the national stage as set forth in §1.491 in an international application;
- c. Before the mailing date of a first Office Action on the merits;
- □ d. Before the mailing of a first Office Action after filing of a request for continued examination under § 1.115.

No statement under 37 C.F.R. § 1.97(e) or fee is required.

or;

- □ 2. This Information Disclosure Statement is being filed after the period specified in paragraph 1(a)-1(d) above, but before the mailing date of a Final Rejection or Notice of Allowance, or action that otherwise closes prosecution in the application, and
 - □ a. I hereby state that each item of information contained in this Information Disclosure

 Statement was first cited in any communication from a foreign patent office
 in a counterpart foreign application not more than three months prior to the
 filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1), or
 - □ b. I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to my knowledge after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2), or
 - ☐ c. Attached is our Check No. _____ in the amount of \$ ____ in payment of the fee under 37 C.F.R. § 1.17(p).

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□ 3.	This Information Disclosure Statement is being filed more than three months after the U.S.
	filing date and after the mailing date of a Final Rejection or Notice of Allowance, but
	on or before payment of the Issue Fee. Attached is our Check No in the
	amount of \$ in payment of the fee under 37 C.F.R. § 1.17(i), and
	□ a. I hereby state that each item of information contained in this Information Disclosure
	Statement was first cited in any communication from a foreign patent office
	in a counterpart foreign application not more than three months prior to the
	filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1), or
	□ b. I hereby state that no item of information in this Information Disclosure Statement
	was cited in a communication from a foreign patent office in a counterpart
	foreign application, and, to my knowledge after making reasonable inquiry,
	no item of information contained in this Information Disclosure Statement
	was known to any individual designated in 37 C.F.R. § 1.56(c) more than
	three months prior to the filing of this Information Disclosure Statement. 37
	C.F.R. § 1.97(e)(2).
□ 4.	Relevance of the non-English language document(s) is discussed in the present specification.
□ 5.	The document(s) was/were cited in a corresponding foreign application. An English
	language version of the foreign search report is attached for the Examiner's
	information.
□ 6.	A concise explanation of the relevance of the non-English language document(s) appears
_	below:
□ 7.	The Examiner's attention is directed to co-pending U.S. Patent Application No,
	filed, which is directed to related technical subject matter. The
	identification of this U.S. Patent Application is not to be construed as a waiver of
	secrecy as to that application now or upon issuance of the present application as a
	patent. The Examiner is respectfully requested to consider the cited application and
	the art cited therein during examination.
□ 8.	Copies of the documents were cited by or submitted to the Office in Application No.
	, filed, which is relied upon for an earlier filing date under 35
	U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and to indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 08-3038 referencing docket number 07783.0084.NPUS00.

Respectfully submitted,

Date: May 20, 2004

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INFORMATION DISCLOSURE CITATION				ATTY. DOCKET NO. 07783.0084.NPUS00			SERIAL NO. 10/771,848			
SUPPLEMENTAL PTO-1449			APP	APPLICANT Rong-Chang Liang, et al.						
				FILI	NG DATE		GR	OUP		
				February 4, 2004			1772			
·				s. PA	TENT DOCUMENTS		l			
EXAMINE R'S INITIALS	R'S		DATE		NAME	CL	ASS	SUBCLASS	FILING	B DATE
	5,38	9,698	02.14.95		Chigrinov et al					
	5,53	9,074	07.23.9	96	Herr et al					
·	USSN 09/759,212 (Publication No. 2002- 0126249)		01.11,01 (09.12.02)		Liang et al			·		
			FOR	EIGN	PATENT DOCUMENTS	- -				
EXAMINER INITIALS		PATENT NO.	DAT	Œ.	E COUNTRY	CLASS	ASS	SUBCLASS	TRANSLATION	
									YES	NO
EXAMINER' INITIALS	OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) EXAMINER'S INITIALS									
	O'Mara, W. C., "Liquid Crystal Flat Panel Displays: Manufacturing Sciences & Technology", 1993						1993			
	"Flat Panel Display Handbook", Display Industry Technology Review, 2 nd Ed., 2000, by Stanford Resource, Inc.							ford		
	"Flat Panel Display 2002 Yearbook" by Nikkei Microdevices									
	Yamada, S. et al, « A New Production fo the Large Size TFT-Panel by « LC-Dropping Method » », SID 01 Digest, pp. 1350 (2001)							od » »,		
	Kamiya, H. et al, « Development of One Drop Fill Technology for AM-LCDs », SID 01 Digest, pp. 1354 (2001)						t, pp.			
	Schadt, M. et al, « Optical Patterning of Multidomain LCDs », JSID 1997 5/4, pp. 367									

					
INFORMATION DISCLOSURE	ATTY. DOCKET NO.	SERIAL NO.			
CITATION	07783.0084.NPUS00	10/771,848			
SUPPLEMENTAL PTO-1449	APPLICANT Rong-Chang Liang, et al.				
	FILING DATE	GROUP			
	February 4, 2004	1772			
Makita, Y. et al, "Photo Ali Sci. Technol. 1998, 11, 18	•	sitivity to Near UV Light", J. Photopoly.			
	of Liquid Crystal Alignment by Polymethacrylates with nains", Chem. Mater. 1999, 11, 1293-1301				
	ecular-Weight Photo-Crosslinkable Composities: Advanced Materials for nt", O. SID 00 Digest, pp-443-445				
Kim, J. et al, « Application 01 Digest, pp-806-809	Kim, J. et al, « Applications of New Photoalignment Materials Containing Cinnamoyl Group », SID 01 Digest, pp-806-809				
Song, S. et al, « Photoalig Phs. 1998, 37, 2620	Song, S. et al, « Photoalignment Films of Polyesters with Photoreactive Main Chain », J. Appli. Phs. 1998, 37, 2620				
	Suh, D., "Polymethacrylate with Benzylidenenephthal-imide Side Chains, Photocontrol of Alignment of a Nematic Liquid Crystal", Macromol. Chem. Phys. 1998, pp. 363-373				
	Suh, D., "Polymethacrylate with Benzylidenenephthal-imide Side Chains, Photocontrol of Alignment of a Nematic Liquid Crystal", Macromol. Chem. Phys. 1998, pp. 375-383				
Kimura, M. et al, « New Pr 1165	Kimura, M. et al, « New Photo-Alignment Technology for IPS-LCSs », SID 01 Digest, pp. 1162- 1165				
Kimura, M. et al, « New Pt SID 00 Digest, pp. 438-44	Photo-Alignment Technology Based on ·-(4-Chalconyloxy) Alkyl Groups »				
	Photo-Assignment Technology Based on Chalcone Moieties : Molecular elopment », SID 01 Digest, pp. 802-805				
Yip, W. C. et al, "Azo Dye 1173	al, "Azo Dye Materials for the Alignment of Liquid Crystal", SID 01 Digest, pp. 1170-				
Gibbons, W. et al, « Surfac Light », Nature, London, 3		tic Liquid Crystals with Polarized Laser			
Vorflusev, V. et al, « Bistal Crysta. Liq. Cryst., 263, 57		ed by Photoanisotropic Fims », Mol.			
Bunning, T. J. et al, "Liquic Proceedings, Vol. 425 (20		logies", Materials Research Soc. Symp.			
Wu, S. T. and Yang, D. K.	, "Reflective Liquid Crystal Displ	ays", John Wiley & Son, Ltd. (2001)			
March, N. and Tosi, M. et., Press (1984)	, "Polymers, Liquid Crystals and	Low-dimensional Solids", Plenum			

ATTY DOCKET NO	SERIAL NO.				
	10/771,848				
APPLICANT Rong-Chang Liang, et al.					
FILING DATE	GROUP				
February 4, 2004	1772				
W., "Smetic Liquid Crystals, Textur	es and Structures", Leonard Hill				
ls for Liquid Crystal Displays with Reduced Power Consumption », Mol. 3 (2000)					
Kirsch, P., et al, « Nematic Liquid Crystals for Active Matrix Displays : Molecular Design and Synthesis », <i>Angew. Chem. Int. Ed.</i> , 39, 4216 (2000)					
Broschard, T. et al, « Exotoxicological Properties of Liquid Crystal Compounds », IDW'00, paper FMC-3-1, Kobe, Japan (2000)					
Zang, H.M., « Liquid Crystal Materials, Devices, and Applications X », SPIE 2004 Electronic Imaging Science and Technology, Jan. 19 2004.					
Ho, C., « Microcup® Electronic Paper by Roll-to-Roll Manufacturing Processes « , FEG, Dec 23 2003, NeiLi, Taiwan					
Chung, J. et al. « Microcup® Electrophoretic Displays, Grayscale and Color Rendition », IDW 03 December, pp 243-246					
Zang, H.M., Spectrum 2003, « Microcup® Electronic Paper by Roll-to-Roll Manufacturing Processes », Advisory Board Meeting, Bowling Green State University, Ohio, Oct. 23, 2003					
en, K. « Electrophoretics Fulfilled », iSuppli Corporation, Emerging Displays Review, Oct. 3, pp 9-14					
Chen, S.M., « The Applications for the Revolutionary Electronic Paper Technology », OPTO News & Letters, 2003, July, 102, pp 37-41 (in Chinese, English abstract attached, full translation available upon request)					
Zang, H.M. and Liang, R.C., « Microcup Electronic Paper by Roll-to-Roll Manufacturing Processes », Spectrum, 2003, Summer, 16/2, pp16-21					
Liang, R.C. and Lee, H., « SiPix Microcup(R) Electronic Paper – An Introduction », Advanced Display, 2003, June, Issue 3, pp 4-9 (in Chinese, English abstract attached, full translation available upon request)					
Liang, R.C. et al, « Microcup(R) Active and Passive Matrix Electrophoretic Displays by A Roll-to-Roll Manufacturing Processes », SID Digest, May 21-22, 2003, 20.1/R.C. Liang					
., « The New Applications and the Dynamics of Companies », TRI, May, 2003 (in inglish abstract attached, full translation availabe upon request)					
Liang, R.C. et al, « Microcup(R) displays : Electronic Paper by Roll-to-Roll Manufacturing Processes », Journal of the SID, Vol. 11/4, Feb. 18-23 2003, pp 621-628					
	FILING DATE February 4, 2004 W., "Smetic Liquid Crystals, Textur for Liquid Crystal Displays with Red 2000) Liquid Crystals for Active Matrix Display. Int. Ed., 39, 4216 (2000) Licological Properties of Liquid Crystals, Devices, and Application ology, Jan. 19 2004 Inic Paper by Roll-to-Roll Manufactur Electrophoretic Displays, Grayscal Microcup® Electronic Paper by Fed Meeting, Bowling Green State University Fulfilled », iSuppli Corporation, Employs for the Revolutionary Electronic properties and the Paper by Roll-to-Paper by Roll-to-				

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CITATION	07783.0084.NPUS00	10/771,848			
SUPPLEMENTAL PTO-1449	APPLICANT Rong-Chang Liang, et al.				
	FILING DATE	GROUP			
	February 4, 2004	1772			
	Liang, R.C. et al, « Passive Matrix Microcup(R) Electrophoretic Displays », IDMC 03, Feb. 18-21, Taipei, Liang, Paper Fr-17-5				
	Liang, R.C. and Tseng, S., « Microcup(R) LCD, A New Type of Dispersed LCD by A Roll-to-Roll Manufacturing Process », IDMC 03, Feb. 18-21, Taipei, Liang, Paper We-02-04				
Manufacturing Processes	Liang, R.C., « Microcup(R) Electrophoretic and Liquid Crystal Displays by Roll-to-Roll Manufacturing Processes », USDC Flexible Microelectronics & Displays Conference, Feb. 3-4, 2003, Phoenix, Arizona, USA.				
	Liang, R.C. et al, « Microcup Electrophoretic Displays by Roll-to-Roll Manufacturing Processes », IDW 02, December 4-6, pp1337-1340				
	g, R.C. et al, « Newly-Developed Color Electronic Paper Promises » Unbeatable Production ency » », <i>Nikkei Microdevices,</i> December 2002				
EXAMINER: DATE CONSIDERED:					

EXAMINER: Initial if citation considered, whether or not the citation conforms with MPEP 609. Draw a line through the citation if not in conformance and not considered. Include a copy of this form with next communication to applicant. *If an asterisk is placed beside the reference number, a copy is not provided because the reference was previously cited by or submitted to the PTO in a prior application that is identical in the statement and relied upon for an earlier filing date under 35 U.S.C. §120. 37 C.F.R. §1.98 (d).